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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,601	01/17/2002	John M. Cioffi	TI-27725.1	3513
23494	7590	05/27/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			HSU, ALPUS	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2665	

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,601

Applicant(s)

CIOFFI ET AL.

Examiner

Alpus H. Hsu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 10-22 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 10 is/are allowed.
- 6) ☒ Claim(s) 11-16, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/17/02, 11/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Claims 17-20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 13-16. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

2. Claims 11-16, 21 and 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 5-8, 3 and 4 of U.S. Patent No. 5,644,573. Although the conflicting claims are not identical, they are not patentably distinct from each other because by broadly interpreting the unprompted broad band initialization signal in U.S. Patent No. 5,644,573 as the claimed broad band initialization signal in the instant application, and having the communications between remote units and central unit carried out on a conventional common bi-directional transmission medium, it would have been obvious to one of ordinary skill in the art to make the U.S. Patent No. 5,644,573 the same invention as claimed.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-5 and 10 are allowed.

5. The following is an examiner's statement of reasons for allowance:

The subject matter of the claims is allowable over the prior art of record because:

Referring to claim 1, all prior arts fail to teach or suggest in a bi-directional data transmission system that facilitates communications between a central unit and a plurality of remote units using a frame based discrete multi-carrier transmission scheme that has a multiplicity of discrete subchannels including an overhead bus having a plurality of overhead subchannels, a method of synchronizing frames transmitted from a selected remote unit to the central unit, the method comprising the steps of: (a) when the selected first remote unit desires to establish communications with the central unit, receiving a first signal from the central unit and loop timing a clock at the selected first remote unit with a clock signal carried in the first signal, (b) transmitting a remote initiated synchronization signal from the loop timed selected first remote unit to the central unit over an overhead subchannel in the overhead bus when the selected first remote unit desires to establish communications with the central unit; (c) transmitting a centrally initiated synchronization signal from the central unit to the selected first remote unit when the central unit receives the remote initiated synchronization signal, wherein the centrally initiated synchronization signal contains information indicative of a frame boundary phase shift required to better synchronize the selected first remote unit with other remote units that are currently communicating with the central unit; and (d) shifting the phase of the frames outputted by the selected first remote unit in response to the centrally initiated synchronization signal to better synchronize the frame boundaries of the frames outputted by the selected first remote unit with frame boundaries of frames output by the other remote units that are currently communicating with the central unit; whereby the synchronization is arranged such that when fully synchronized, the frame boundaries from the various remotes will substantially coincide when they are received at the central unit.

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Referring to claim 10, all prior arts fail to teach or suggest in a bi-directional data transmission system that facilitates communications between a central unit and a plurality of remote units using a frame based discrete multi-carrier transmission scheme that has a multiplicity of discrete subchannels including an overhead bus, a method of synchronizing frames transmitted from a selected remote unit to the central unit, the method comprising the steps of: when the selected first remote unit desires to establish communications with the central unit, receiving a first signal from the central unit and loop timing a clock at the selected first remote unit with a clock signal carried in the first signal; transmitting a remote initiated synchronization signal from the selected first remote unit to the central unit over a dedicated overhead subchannel in the overhead bus when the clock is loop timed with the clock signal in the first signal; receiving a centrally initiated synchronization signal transmitted from the central unit in response to the remote initiated synchronization signal, wherein the centrally initiated synchronization signal contains information indicative of a frame boundary phase shift required to synchronize the selected first remote unit with other remote units that are currently communicating with the central unit; and shifting the phase of the frames outputted by the selected first remote unit in response to the centrally initiated synchronization signal to better synchronize the frame boundaries of the frames outputted by the selected first remote unit with frame boundaries of frames output by the other remote units that are currently communicating with the central unit, the synchronization being arranged to occur such that the frame boundaries from the various remotes are arranged to substantially coincide when they are received at the central unit.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (571)272-3146. The examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHH



Alpus H. Hsu
Primary Examiner
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